

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

REMARKS/ARGUMENTS

Reconsideration and continued examination of the above-identified application are respectfully requested. Claims 1-14 and 27-29 have been canceled as non-elected subject matter. New claims 30-37 have been added and are supported by the claims as originally filed, see page 9, lines 10-22; page 12, lines 6-22; page 14, lines 5-8; and page 18, line 15 of the present application. Accordingly, no questions of new matter should arise and entry of this amendment is respectfully requested. New claims 30-37 are part of the same elected invention as claim 15 and are more specific with respect to the various components of the method. The arguments for patentability as set forth below equally apply to these new claims and in fact, these new claims would even be further different than the examined claims with respect to the Examiner's rejections.

At page 2 of the Office Action, the Examiner has objected to claim 21 under 37 CFR 1.75(c) as being of improper dependent form for failing to limit the subject matter of a previous claim.

Claim 21 inadvertently duplicated the subject matter of claim 18. Claim 21 has thus been canceled. Claim 22, which previously depended upon claim 21, has been amended to now depend upon claim 18. The scope of claim 22 is the same. Accordingly, full support exists and no questions of new matter are raised by this amendment. Entry of this amendment is respectfully requested.

At page 3 of the Office Action, the Examiner rejects claims 15-22 and 24 under 35 U.S.C. §103(a) as being unpatentable over the "admitted prior art (APA)" in view of either Atkins (U.S. Patent No. 1,125,921) or the British patent (GB 2 134 816). The Examiner asserts that the admitted

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

prior art is the subject matter discussed on the first few pages of the specification and further refers to the process of milling niobium material. The Examiner further indicates that single size media are used to mill the material which is an inefficient milling process and that both Atkins and the British patent solve this problem by disclosing a similar process including use of different sized media. Thus, the Examiner asserts that it would have been obvious for one of ordinary skill in the art to modify the admitted prior art by providing different sized media as shown by the secondary references. The Examiner further asserts that the exact size of the media would have been an obvious design choice based on several factors, such as the material being treated and desired end results. For the following reasons, this rejection is respectfully traversed.

The Applicant objects to the characterization of the first few pages of the instant application as admitted prior art. With regard to applicant admitted prior art, the MPEP states: "A statement by an applicant during prosecution identifying the work of another as 'prior art' is an admission that that work is available as prior art against the claims." MPEP § 2129. Thus, the applicant must expressly identify the work as prior art in order for the work to be applicant admitted prior art. Nowhere in the instant application, or through any other means of communication with the U.S. Patent and Trademark Office, has the applicant identified any statements made in the specification as prior art.

The Examiner appears to be referring to page 2, line 22, to page 3, line 1 of the present specification, and the statement contained therein that "niobium is milled." It is respectfully submitted that this is not a disclosure of the milling of niobium that can be used for § 103(a) purposes in this case. It is not specified what type of milling is being referred to (ball milling, sand

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

milling, table milling, etc.), how the milling is done, what particulate sizes are achieved, who the authors of the work were, or any other important details of the reference. In order for this reference to be a proper § 103(a) reference these details should be disclosed. Therefore, it is respectfully submitted that this reference should not be relied upon by the Examiner for § 103(a) purposes.

Clarification is requested by the Applicant as to what specific disclosure is being referred to, and what exactly, in the Examiner's opinion, has been disclosed as prior art in the Background of the present specification.

The Applicant will base the rest of this response on the assumption that the Examiner is referring to the statement that the "niobium is milled" on page 3, line 1.

Atkins et al., and the reference in the present specification that the "niobium is milled" in the applicant's specification are cited as rendering claims 15-22, and 24 unpatentable under 35 U.S.C. § 103(a).

The Atkins reference relates to a milling apparatus that has separate compartments with different sized milling pebbles or balls. Atkins et al. states that an "ore" may be ground in the apparatus with greater efficiency, by having the ore pass through the various compartments, each of which contain the different sized pebbles or balls. See page 1, lines 10-14 of Atkins et al.

The MPEP states:

"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.” MPEP § 2143.

In the instant case, it is respectfully submitted that the statement that “niobium is milled” in applicant’s specification in combination with the Atkins reference does not teach or suggest all of the elements of claim 15. Also, the Examiner has not provided a suggestion or motivation either in the references themselves or in the knowledge of one skilled in the art, to combine the above references.

As discussed, the reference to the milling of niobium on page 3, line 1 of applicant’s disclosure does not disclose the milling of niobium as it is understood in the claims. According to The Oxford American Dictionary, mill means: “an apparatus for grinding any solid substance to powder or pulp” or to “grind (grain), produce (flour), or hull (seeds) in a mill.” The Oxford American Dictionary (1999). Thus, there are many types of milling, and the mere reference to the milling of niobium does not disclose the milling of niobium as it is understood in the claims, that is, with balls or some other media.

Furthermore, the apparatus of Atkins et al. also does not disclose the milling of niobium. The Atkins reference generally refers to the milling of “ores.” However, “ores” is a very loose term that could include literally hundreds of thousands of different compounds. Indeed, even many nonmetallic compounds such as fluorite and gypsum are called ores. See McGraw Hill Encyclopedia of Science & Technology, 2nd Ed. (1989). A disclosure of such a massive genus of compounds cannot be properly said to be specific enough to disclose the milling of a getter material

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

like niobium, niobium oxide, or an oxygen reduced niobium oxide as is stated in claim 15.

As discussed in the MPEP § 2144.08, the size of the genus is a very important factor in deciding whether a species of the genus is disclosed for § 103 purposes. "Some motivation to select the claimed species or subgenus must be taught by the prior art." MPEP § 2144.08. In this case, where the term "ore" has such a broad and loose definition, the Examiner must produce some specific motivation, as is required, to assert that the particular species mentioned in claim 15 are disclosed.

Also, there is nothing in either disclosure that would suggest that the Atkins apparatus is operable with niobium. "The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient." MPEP § 2121.01. As mentioned, "ores" is an extremely loose term that encompasses a genus of materials that have a very wide range of physical properties. See McGraw Hill Encyclopedia of Science & Technology, 2nd Ed. (1989). While it may be assumed that the Atkins apparatus may be operable with at least some of the class of compounds encompassed by the term "ores," it can in no way be assumed that it would be operable with all of that genus. Some ores are quite soft, have lower melting points, are more brittle, can more easily break and shatter than niobium. Thus, some additional disclosure is necessary to show that the asserted references provide an enabling disclosure in conformance with the MPEP § 2121.01.

The Examiner has also not provided any proper suggestion or motivation to combine the milling of niobium as mentioned in the disclosure with the Atkins reference. "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." MPEP § 2143.01. The Examiner has cited nothing in the references themselves, nor has pointed to anything in the knowledge of one skilled in the art that it would be desirable or beneficial to use the apparatus disclosed in Atkins with the compounds referred to in claim 15, as is required by the rules.

For the reasons stated above, it is respectfully submitted that neither the parts of the present specification relied upon by the Examiner, nor the Atkins reference teach or suggest the milling of niobium, as it is recited in the claims, with balls or some other medium. Therefore, all of the elements of independent claim 15 are not disclosed by the asserted references. Also, no motivation or suggestion to combine the above references has been provided by the Examiner as is required.

With regard to dependent claims 17-22, it is respectfully asserted that none of the additional limitations contained in those claims are taught or suggested, or even hinted at, by either asserted reference. In particular, the elements that specify the material size in comparison to the media size, and the elements that specify media size when the material is milled to a particular degree, is nowhere taught or suggested, or even hinted at, by the asserted references. It is respectfully asserted that because of the complete lack of disclosure with regard to the elements of dependent claims 17-22 that these claims are clearly allowable.

For each of the above-discussed reasons it is respectfully suggested that the Office has not made out a case of unpatentability under § 103(a) with respect to any of the claims at issue. It is here submitted that this rejection, for each of claims 15-22 and claim 24, should be withdrawn.

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

UK Patent Application GB 2 134 816 A, and the reference that the "niobium is milled" at page 3, line 1 in the applicant's disclosure, have been cited as rendering claims 15-22 and 24 of the instant application unpatentable under 35 U.S.C. § 103(a).

All of the claimed elements of the invention are not taught or suggested by the asserted references either alone or in combination. Further, the Examiner has provided no motivation or suggestion to combine the references as is required. As discussed above, the milling that is encompassed by the present application includes milling with balls or some other media. A mere reference to the milling of niobium does not disclose the milling contemplated by the claims at issue.

Further, the UK Patent Application does not teach or suggest the milling of a getter material, a starting niobium oxide, or an oxygen reduced niobium oxide as required by claim 15. In fact, the application specifically mentions only the milling of "minerals." See GB 2 134 816 A, page 1, line 4. The application then goes on to discuss at great length the milling of coal.

There is nothing in the application that suggests that the inventors had in view the milling of niobium or its oxides. Given the very large number of species encompassed within the genus of "minerals," it is clear that some suggestion or reference to niobium must be present in order for there to be a proper disclosure of the milling of niobium or its oxides. See MPEP § 2144.08.

Also, there is nothing in the reference that indicates that the disclosed apparatus in the application would be operable with niobium or its oxides. Indeed, the extensive discussion of coal, which is not even a metal, indicates otherwise. As discussed there must be something more in the reference to show that the disclosure is enabling. See MPEP § 2121.01.

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

Further, the Examiner has also provided no teaching or suggestion, or even motivation to combine the asserted references as it is required to do under the rules. The Examiner is required to point to something specific in the references themselves, or to some specific knowledge that one of skill in the art would have, that would lead one to combine these references. See MPEP § 2143.01.

With regard to dependent claims 17-22, there is again no hint of the additional limitations contained in these dependent claims in either reference. There is no hint of constraints on the material size in comparison to the ball or media size, and there is no hint of milling with media of a particular size once the material has been milled down to a particular degree. Again, it is here asserted that these dependent claims are clearly allowable over the asserted references.

For each of the above reasons, it is respectfully suggested that claims 15-22 and claim 24 are each allowable over the asserted references. It is here requested that the rejections be withdrawn.

The Examiner is encouraged to contact the undersigned should there be any remaining claims as to the patentability of the presently-claimed subject matter.

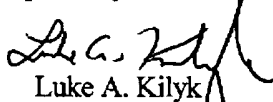
CONCLUSION

In view of the foregoing remarks, the applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims.

If there are any other fees due in connection with the filing of this response, please charge the fees to deposit Account No. 03-0060. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and should also be charged to said Deposit Account.

U.S. Patent Application No. 10/083,657
Amendment dated February 15, 2005
Reply to Office Action of November 15, 2004

Respectfully submitted,


Luke A. Kilyk
Reg. No. 33,251

Atty. Docket No. 01017CIP (3600-346-01)
KILYK & BOWERSOX, P.L.L.C.
53 A East Lee Street
Warrenton, VA 20186
Tel: (540) 428-1701
Fax.: (540) 428-1720